

New Hampshire Coronavirus Disease 2019 Weekly Call for Healthcare Providers and Public Health Partners

April 29, 2021

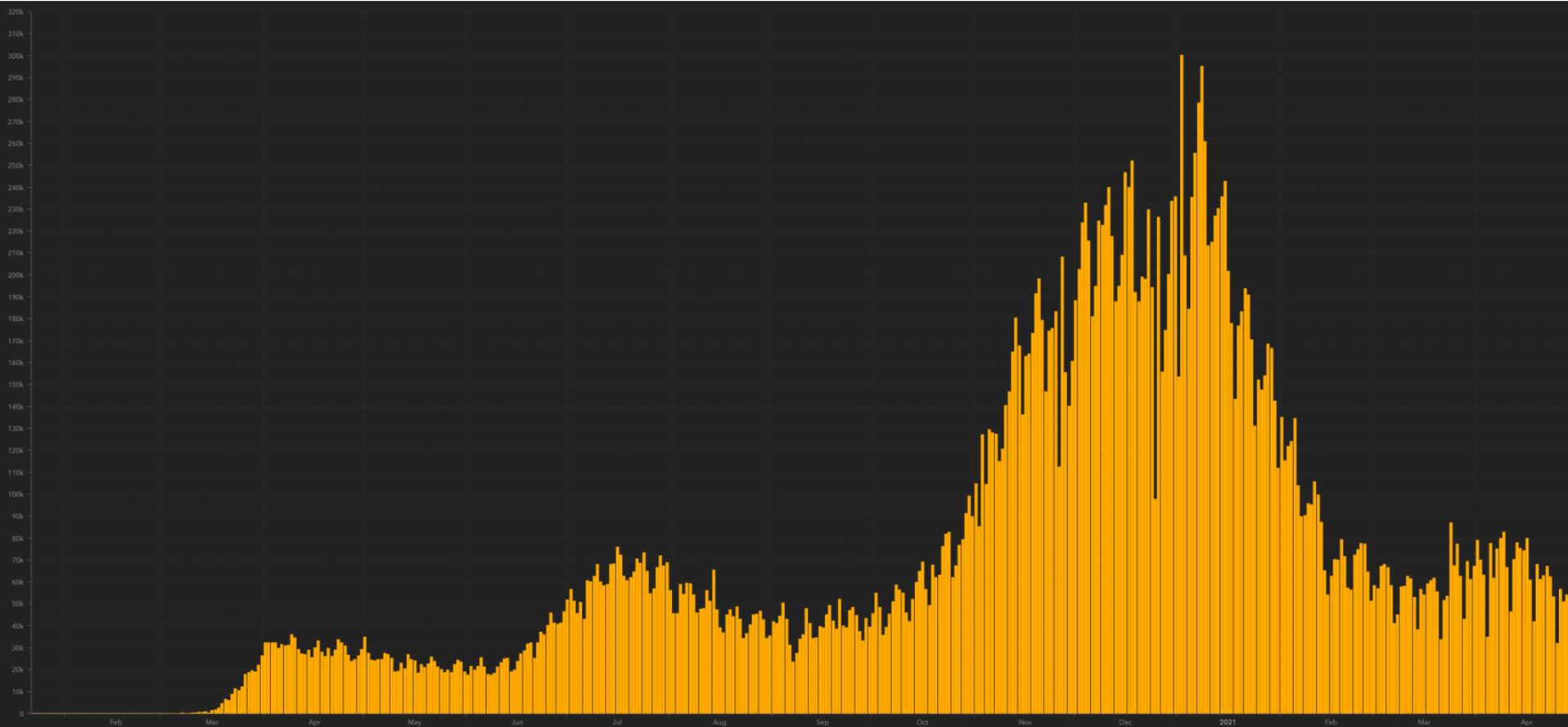
Ben Chan
Beth Daly

Thursday noon-time partner calls will focus on science, medical, and vaccine updates geared towards our healthcare partners

Agenda

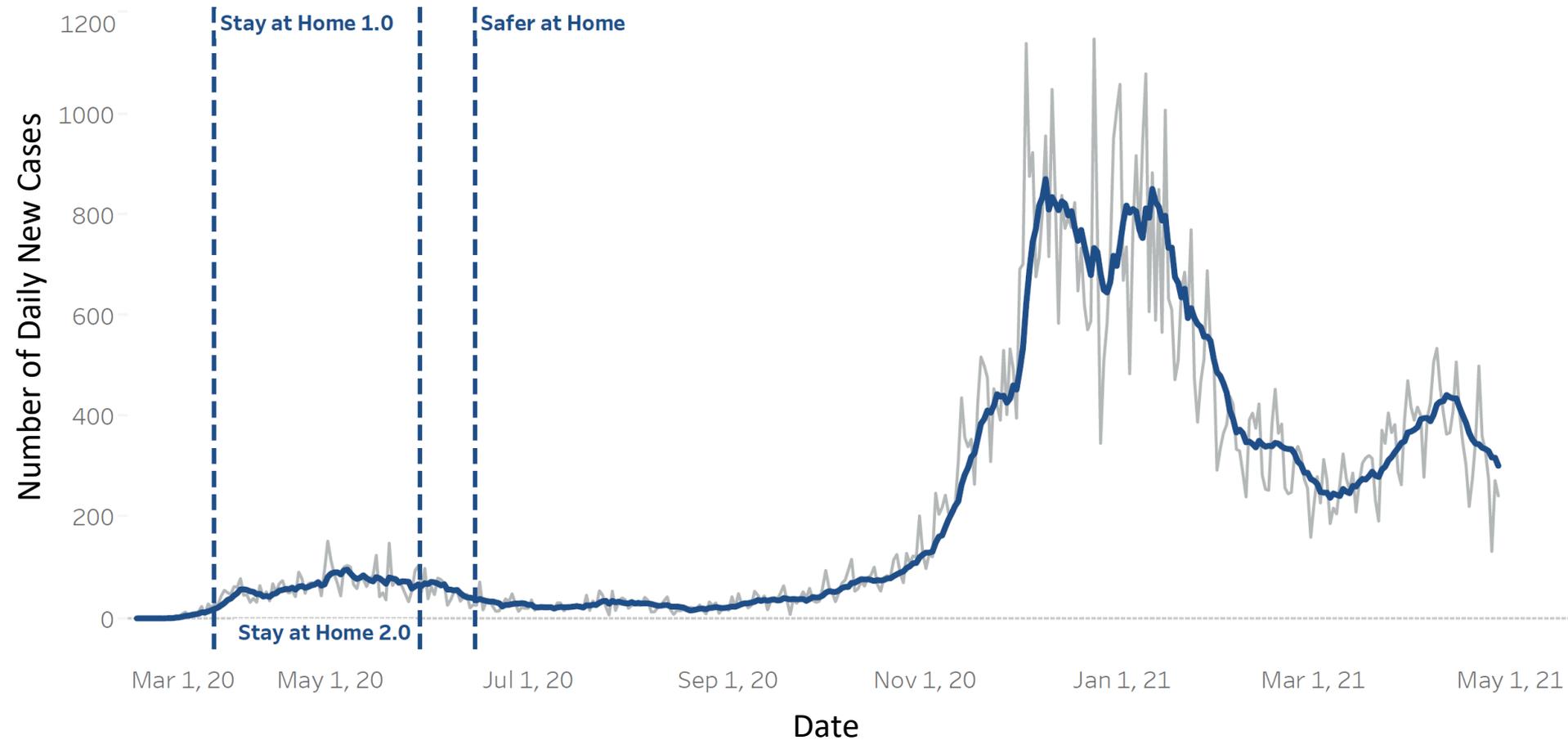
- Epidemiology Update
- Moderna and Pfizer-BioNTech COVID-19 vaccine effectiveness at preventing hospitalizations
- Johnson and Johnson (J&J) Janssen COVID-19 vaccine update
- Questions & Answers (Q&A)

National Daily Incidence of COVID-19



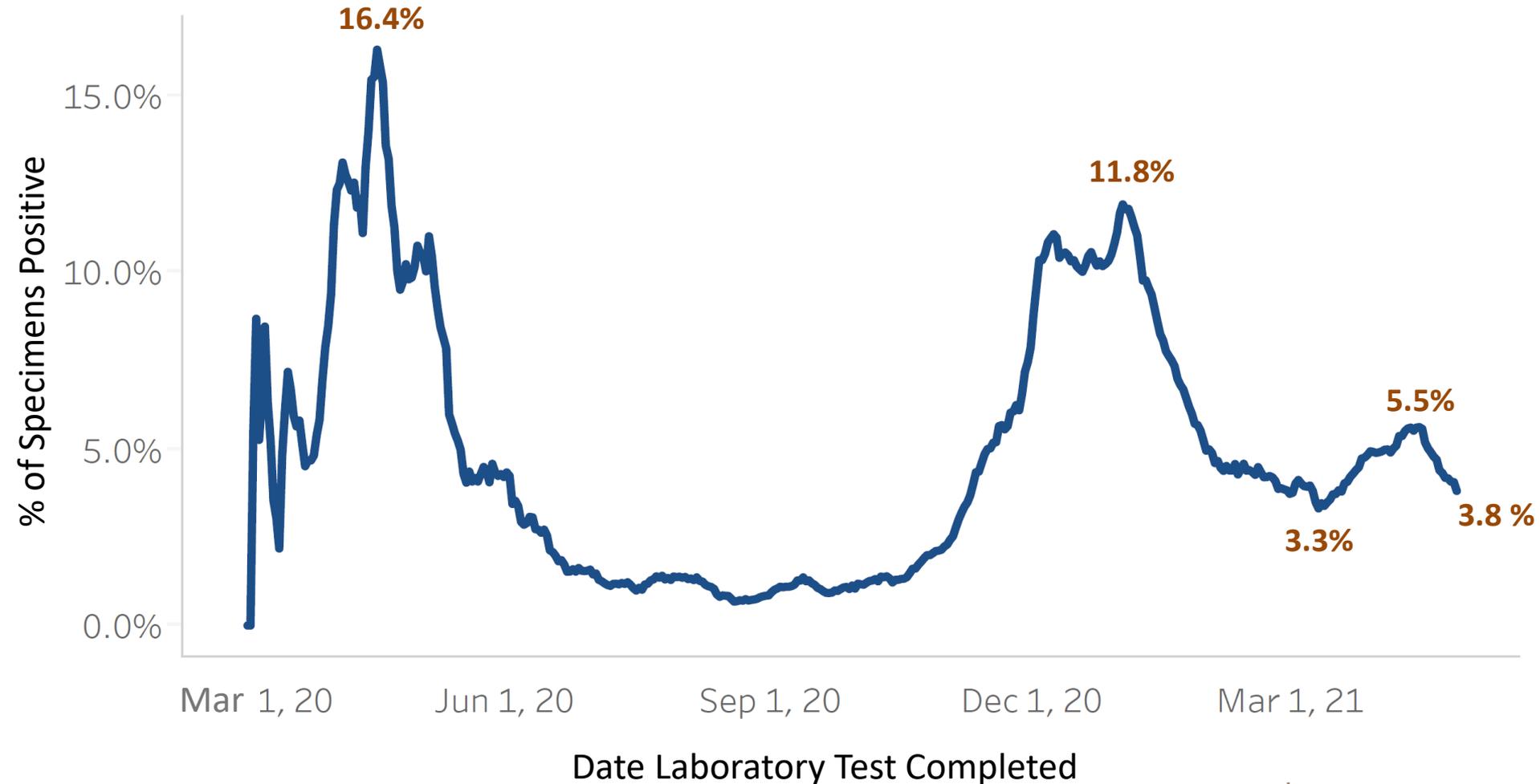
- More than 32.2 million cumulative cases in the U.S. (22% of all global infections)
- More than 574,000 deaths in the U.S. from COVID-19 (18% of all global deaths)

Number of New COVID-19 Cases per Day in NH

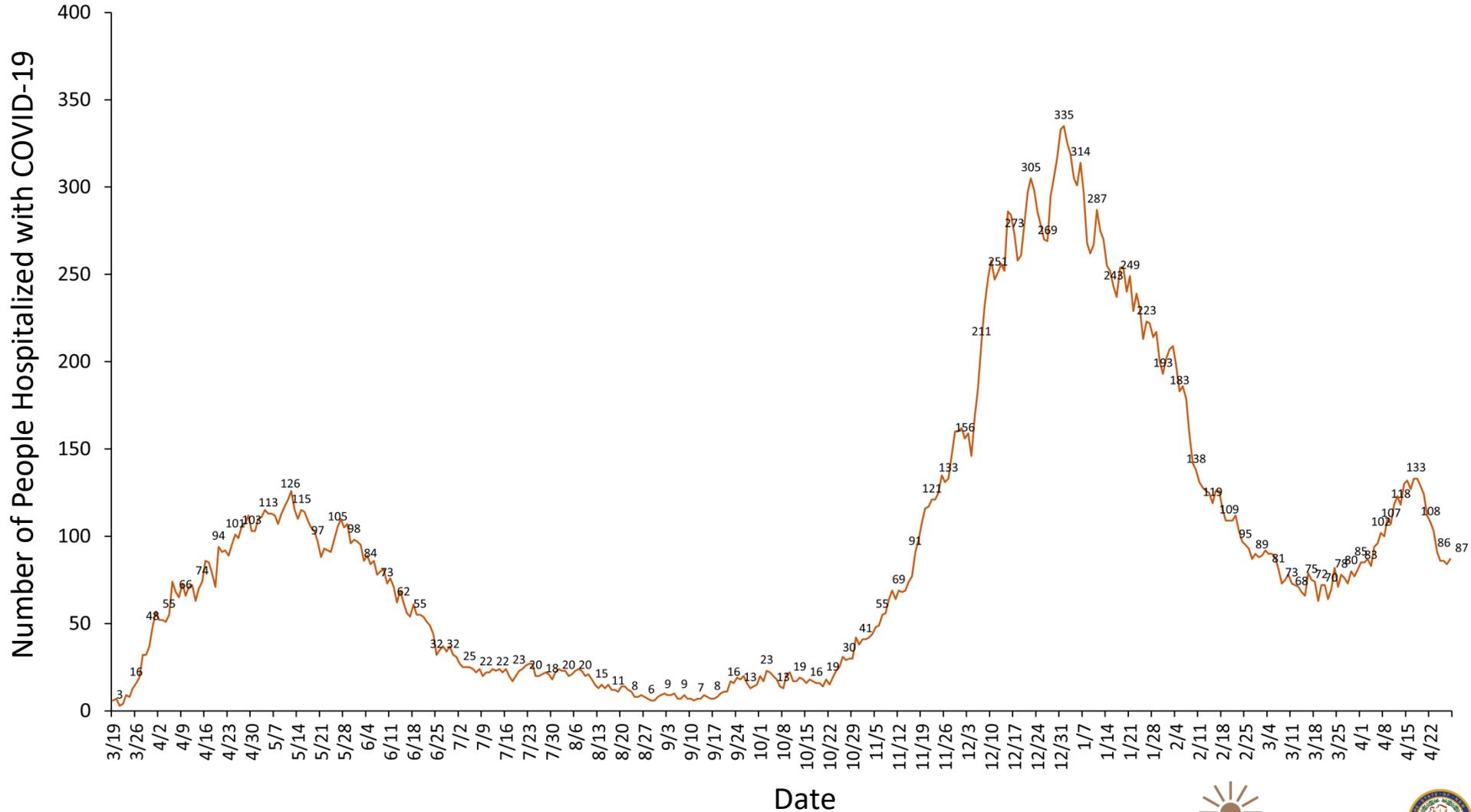


<https://www.nh.gov/covid19/dashboard/overview.htm#dash>

% of Tests (Antigen and PCR) Positive for COVID-19 (7-Day Average)



Number of People Hospitalized with COVID-19 Each Day in NH (Hospital Census)

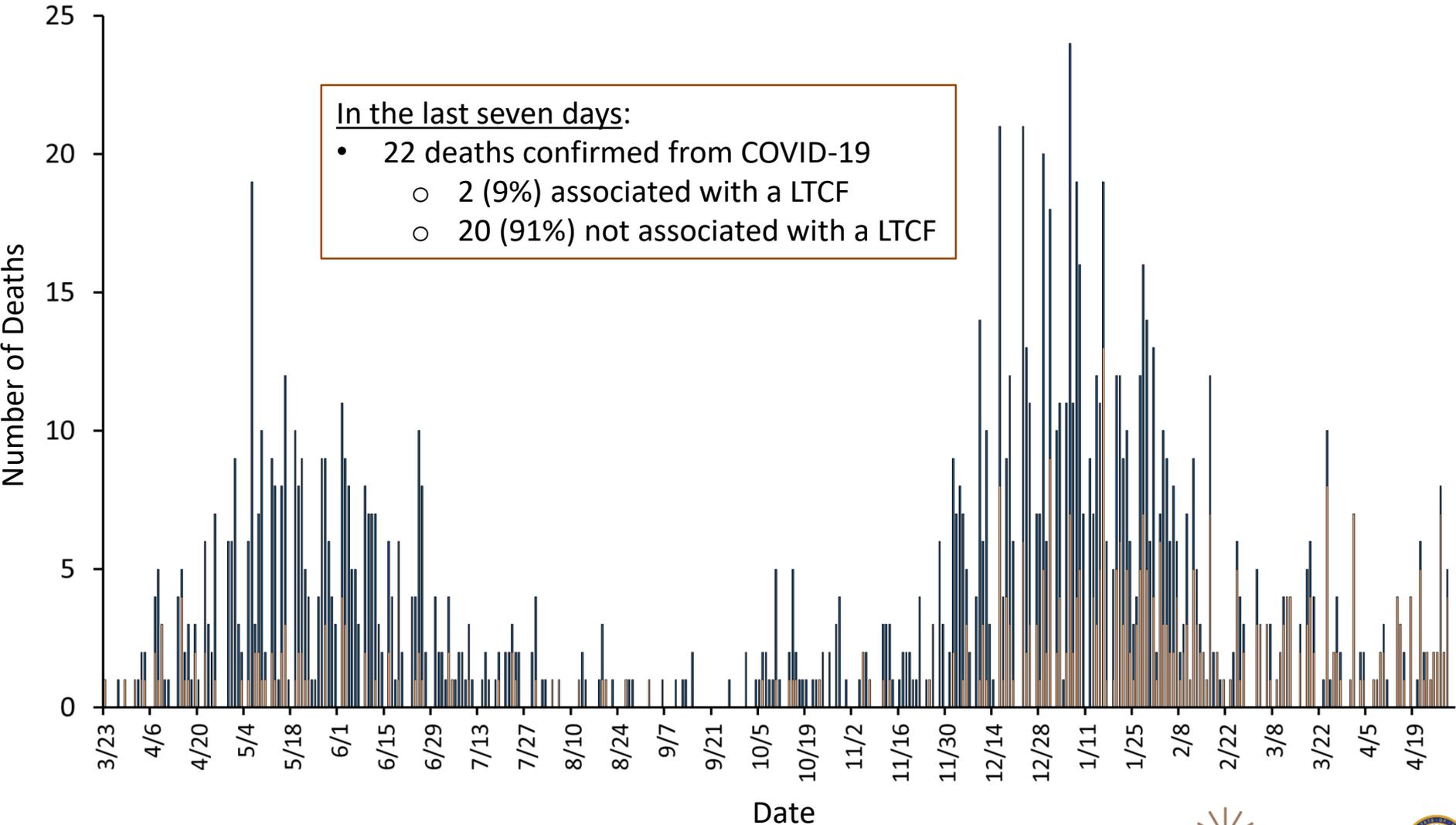


Number of COVID-19 Deaths in NH by Report Date

■ Non-LTCF Associated ■ LTCF Associated

In the last seven days:

- 22 deaths confirmed from COVID-19
 - 2 (9%) associated with a LTCF
 - 20 (91%) not associated with a LTCF



Average Number of COVID-19 Deaths per Day in NH (Based on Date of Actual Death)



<https://www.nh.gov/covid19/dashboard/overview.htm#dash>

Effectiveness of Pfizer-BioNTech and Moderna Vaccines
Against COVID-19 Among Hospitalized Adults Aged ≥ 65 Years —
United States, January–March 2021

- Case-Control study looking at vaccine effectiveness at preventing hospitalizations from COVID-19 at 24 hospitals from 14 different states
- Included adults admitted with COVID-19-like illness
- Eligibility criteria for inclusion (as a case or control):
 - 65 years of age or older on date of admission
 - Received testing for SARS-CoV-2 within 10 days of illness onset
 - Had onset of symptoms 0-14 days before admission
- Cases: tested positive, Controls: tested negative

Vaccination Classification

- Vaccination status classification:
 - Unvaccinated
 - Single-dose vaccinated (receipt of 1st dose <14 days before COVID-19 illness onset)
 - Partially vaccinated (received 1st dose 14+ days before illness onset with 2nd dose <14 days before illness onset)
 - Fully vaccinated (received 2nd dose 14+ days before illness onset)

Vaccine Efficacy from Clinical Trials

Table Comparing the Pfizer-BioNTech, Moderna, and Janssen COVID-19 Vaccines

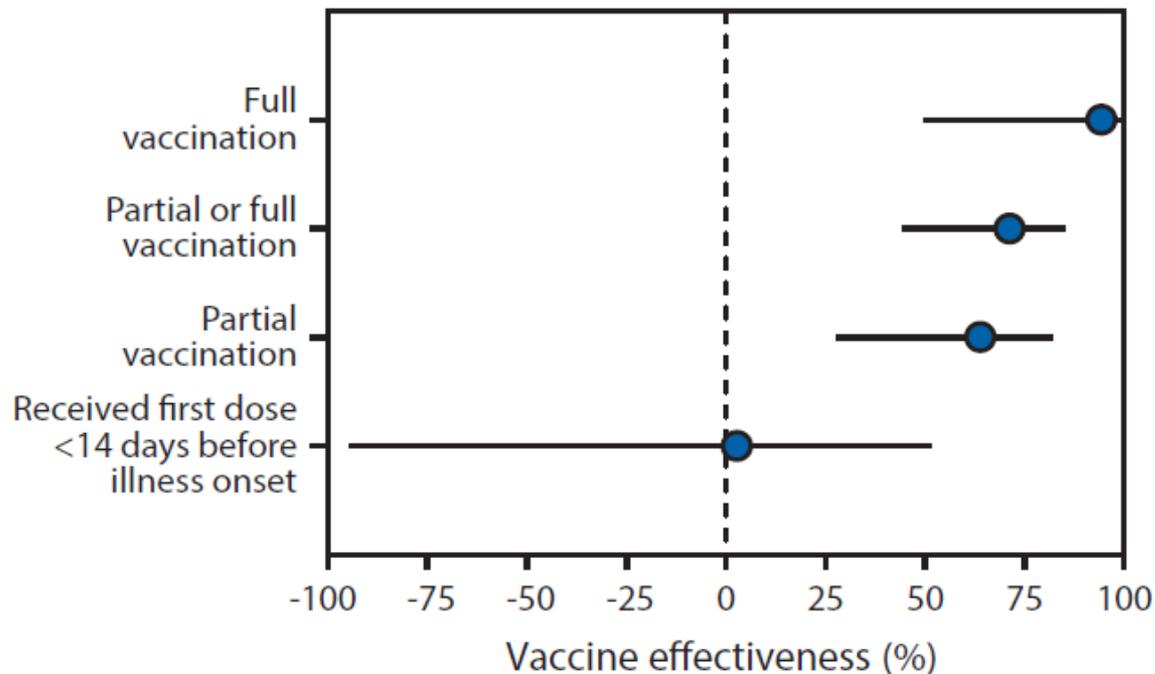
	Pfizer-BioNTech	Moderna	Janssen
Type of Vaccine	Modified mRNA	Modified mRNA	Adenovirus vector
Dosing	2-dose series Doses separated by 21 days	2-dose series Doses separated by 28 days	1-dose series
Overall Vaccine Efficacy (VE)	95% ^{1,2}	94% ^{3,4}	66% ⁵ (72% in U.S. Population)
VE at Preventing Severe Disease	75% ^{1,2} (1 case vs. 4 cases) 92% ⁶	100% ^{3,4} (0 cases vs. 30 cases)	85% ⁵ (5 cases vs. 34 cases)
VE at Preventing Hospitalization	87% ⁶	limited numbers prevented calculation ^{3,4}	100% ⁵ (0 cases vs. 16 cases)

Findings

- 417 hospitalized patients included in the final analysis
 - 187 case-patients
 - 230 control-patients
- Among 187 case-patients (tested positive)
 - 18 (10%) were partially vaccinated
 - 1 (0.5%) were fully vaccinated
- Among 230 control-patients (tested negative)
 - 44 (19%) who were partially vaccinated
 - 18 (8%) who were fully vaccinated

Vaccine Effectiveness

FIGURE. Adjusted* vaccine effectiveness (with 95% confidence intervals) against COVID-19 among hospitalized[†] adults aged ≥ 65 years, by vaccination status[§] — 24 medical centers in 14 states,[¶] January–March 2021



- Vaccine Effectiveness for full-vaccination: **94%** (95% CI: 49-99%)
- Vaccine Effectiveness for partial-vaccination: **64%** (95% CI: 28-82%)

Updated Recommendations from the Advisory Committee on Immunization Practices for Use of the Janssen (Johnson & Johnson) COVID-19 Vaccine After Reports of Thrombosis with Thrombocytopenia Syndrome Among Vaccine Recipients — United States, April 2021

- April 13th: CDC and FDA recommended a pause on the use of the Janssen COVID-19 vaccine after 6 cases of Cerebral Venous Sinus Thrombosis (CVST) with thrombocytopenia (low platelet counts)
- April 14th: ACIP met to review reports of CVST and requested more information and data
- April 23rd: ACIP met a second time to review additional reports
- April 23rd: ACIP voted to reaffirm use of the Janssen vaccine in anybody 18 years of age and older; CDC and FDA lifted pause

Thrombosis with Thrombocytopenia Syndrome (TTS)

- TTS is a rare syndrome that involves acute venous or arterial thrombosis (blood clots) and new onset of thrombocytopenia (low platelet cell counts) in patients without recent exposure to heparin
- Pathogenesis is likely similar to heparin-induced thrombocytopenia (HIT) – Immune-mediated clotting syndrome
- There does appear to be an association between TTS and receipt of the Janssen and AstraZeneca COVID-19 vaccines (both of which are adenoviral vector COVID-19 vaccines), but risk is very low
- There have been no cases of TTS associated with either mRNA COVID-19 vaccine (neither the Pfizer nor Moderna vaccines)

15 cases of TTS identified

- Out of 7.98 million doses of Janssen COVID-19 vaccine administered in the U.S., there have been 15 cases of TTS identified as of April 21st (1.9 cases per million doses administered)
 - All cases were in women
 - 12 cases involved CVST
 - 3 people died
 - Most (n=13) were in women under the age of 50
 - Median age: 37 years (range 18-59 years)
 - Median time to symptom onset was 8 days (range 6-15 days)
- No specific contributing risk factors were identified

Risk Factors for Thrombosis in the 15 Cases

- Pregnancy/post-partum: 0
- Coagulation disorders: 0
- Diabetes: 0
- Oral contraceptive use: 2
- Hypothyroidism: 2
- HTN: 2
- Obesity: 7

Etiology of TTS is Believed to be Different from Causes for Venous Thromboembolism (VTE)

- People with typical risk factors for VTE (e.g., inherited or acquired thrombophilia like Factor V Leiden, prothrombin mutation, antiphospholipid syndrome, etc.) or who have a prior history thromboses which are not associated with thrombocytopenia are unlikely to be at increased risk for TTS after receipt of the Janssen vaccine.
- Pregnancy (and the postpartum period) and hormonal contraceptives are NOT believed to make a person more susceptible to TTS after receipt of the Janssen vaccine.

Women Under the Age of 50 Have a Higher, but Still Very Low Risk

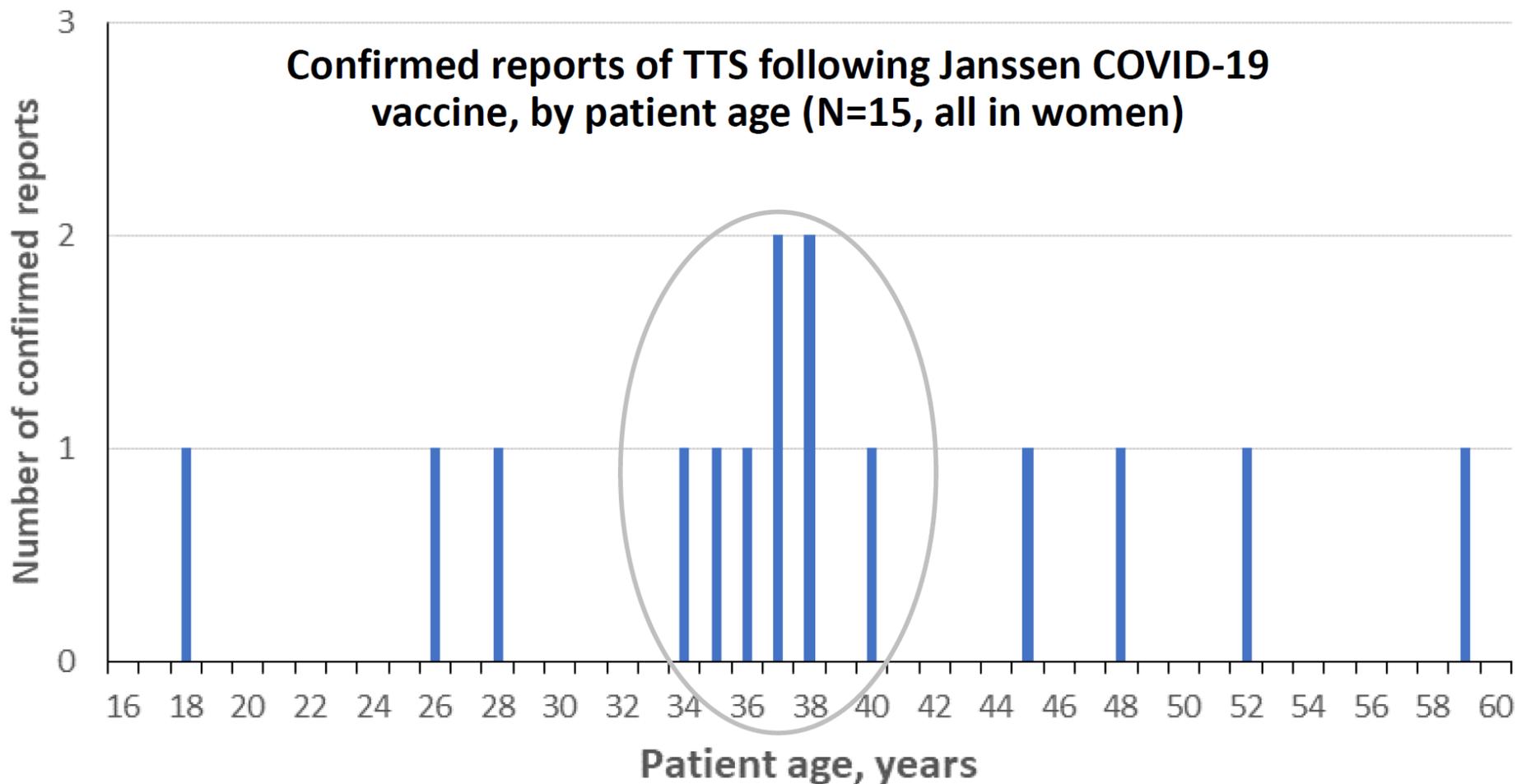
Reporting rates of TTS after Janssen COVID-19 vaccine

- 7.98 million vaccine doses administered* and 15 confirmed TTS cases[†] as of April 21, 2021
 - Some age- and sex-specific doses administered data were imputed
 - Additional potential TTS cases under review, including potential male cases

Age group	Females			Males		
	TTS cases	Doses admin	Reporting rate [‡]	TTS cases	Doses admin	Reporting rate [‡]
18-49 years old	13	1,866,294	7.0 per million	0	1,977,330	0 per million
50+ years old	2	2,125,239	0.9 per million	0	2,010,144	0 per million

* Source of doses administered: <https://covid.cdc.gov/covid-data-tracker/#vaccinations>; [†] One case was excluded from the final analysis: a female aged <50 years who had concurrent diagnosis of COVID-19 and TTS following receipt of Janssen vaccine; [‡] Reporting rate = TTS cases per 1 million Janssen COVID-19 vaccine doses administered

TTS by Patient Age



Rate of TTS by Age Group

Reporting rates of TTS after Janssen COVID-19 vaccine in women

- 3.99 million vaccine doses administered to women* with 15 confirmed TTS cases[†] as of April 21, 2021
 - Some age-specific doses administered data were imputed

	Females		
Age group	TTS cases	Doses admin	Reporting rate [‡]
18-29 years old	3	579,709	5.2 per million
30-39 years old	7	594,215	11.8 per million
40-49 years old	3	692,370	4.3 per million
50-64 years old	2	1,367,529	1.5 per million
65+ years old	0	757,710	0 per million

* Source of doses administered: <https://covid.cdc.gov/covid-data-tracker/#vaccinations>; [†] One case was excluded from the final analysis: a female aged <50 years who had concurrent diagnosis of COVID-19 and TTS following receipt of Janssen vaccine; [‡] Reporting rate = TTS cases per 1 million Janssen COVID-19 vaccine doses administered

TABLE 2. Individual-level estimated number of COVID-19–related hospitalizations, intensive care unit admissions, and deaths prevented after resuming use of Janssen COVID-19 vaccine for 1 month* and number of expected cases of thrombosis with thrombocytopenia syndrome per 1 million vaccine doses, by sex and age group† — United States, 2021

Benefits and harms from resuming vaccination	No. per million vaccine doses administered [§]			
	Females		Males	
	18–49 yrs	≥50 yrs	18–49 yrs [¶]	≥50 yrs
Benefits				
Hospitalizations prevented	297	2,454	272	2,821
ICU admissions prevented	56	661	51	760
Deaths prevented	6	394	6	471
Harms				
TTS cases expected	7	1	1	0

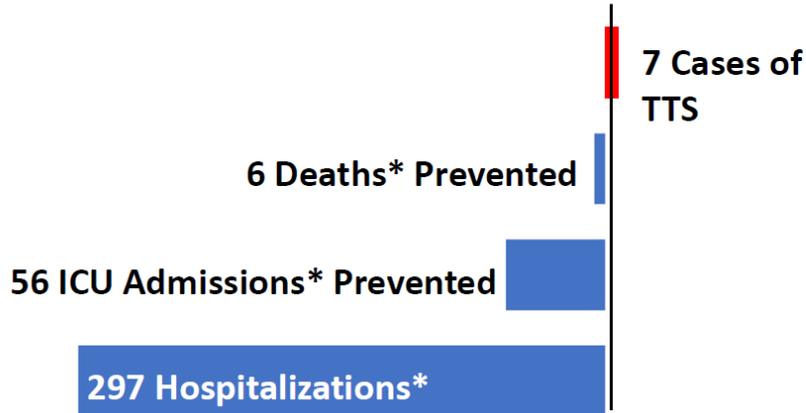
Abbreviations: ICU = intensive care unit; TTS = thrombosis with thrombocytopenia syndrome.

Individual Level Risk-Benefit Analysis

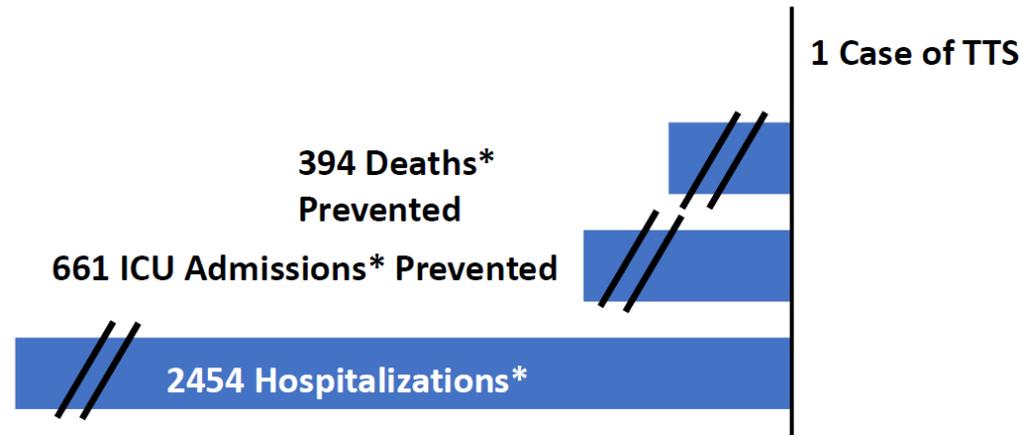
Risks and benefits females, by age group

For every **1 million** doses of vaccine given with current US exposure risk¹

Females 18-49



Females 50+



* Deaths, ICU admissions, and deaths due to COVID-19
Acronyms: Thrombosis with Thrombocytopenia Syndrome (TTS)

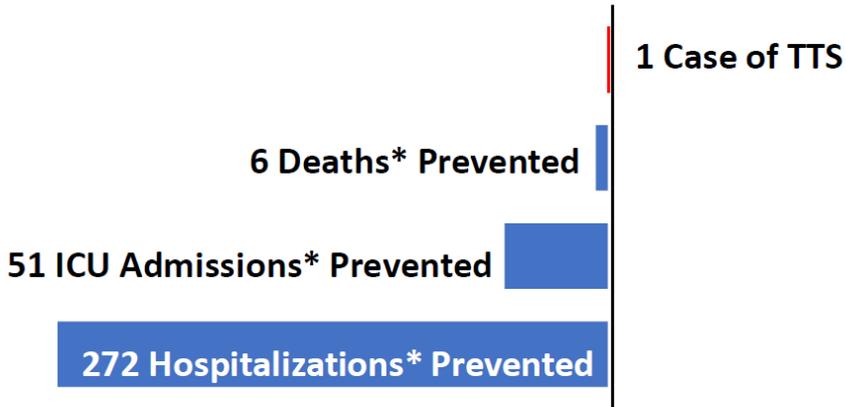
Diagonal lines indicate a scale break in y-axis

Individual Level Risk-Benefit Analysis

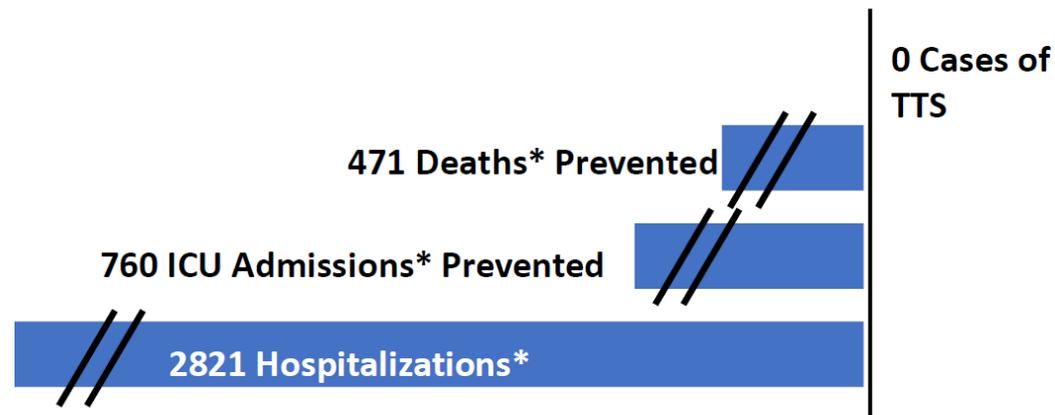
Risks and benefits males, by age group

For every 1 million doses of vaccine given with current US exposure risk¹

Males 18-49[†]



Males 50+



[†]Analyses incorporated one TTS case that occurred in the Phase 3 trial in a male aged 18-49 years.

*Deaths, ICU admissions, and deaths due to COVID-19

Acronyms: Thrombosis with Thrombocytopenia Syndrome (TTS)

Diagonal lines indicate a scale break in y-axis

ACIP Options Discussed at 4/23 Meeting

- Recommend **against** use for all persons
- Reaffirm recommendations for **all** age and sex (FDA to include a warning statement with their EUA)
- Recommend vaccination only for adults **≥ 50 years of age**
- Reaffirm recommendations for use; women aged <50 should **be aware** of the increased risk of TTS, and **may choose** another COVID-19 vaccine (i.e., mRNA vaccines)

ACIP Options Discussed at Meeting 4/23

- ~~Recommend **against** use for all persons~~
- ★ Reaffirm recommendations for **all** age and sex
(FDA to include a warning statement with their EUA)
- ~~Recommend vaccination only for adults \geq **50 years of age**~~
- ★ Reaffirm recommendations for use; women aged <50 should **be aware** of the increased risk of TTS, and **may choose** another COVID-19 vaccine (i.e., mRNA vaccines)

ACIP Voted 10-4 in Favor of Reaffirming Use of the Janssen Vaccine in People 18 Years of Age and Older

The Janssen COVID-19 vaccine is recommended for persons 18 years of age and older in the U.S. population under the FDA's Emergency Use Authorization

**FACT SHEET FOR HEALTHCARE PROVIDERS ADMINISTERING VACCINE
(VACCINATION PROVIDERS)**

**EMERGENCY USE AUTHORIZATION (EUA) OF
THE JANSSEN COVID-19 VACCINE TO PREVENT CORONAVIRUS
DISEASE 2019 (COVID-19)**

<https://www.fda.gov/media/146304/download>

CONTRAINDICATION

Do not administer the Janssen COVID-19 Vaccine to individuals with a known history of a severe allergic reaction (e.g., anaphylaxis) to any component of the Janssen COVID-19 Vaccine (*see Full EUA Prescribing Information*).

WARNINGS

Management of Acute Allergic Reactions

Appropriate medical treatment to manage immediate allergic reactions must be immediately available in the event an acute anaphylactic reaction occurs following administration of the Janssen COVID-19 Vaccine.

Monitor Janssen COVID-19 Vaccine recipients for the occurrence of immediate adverse reactions according to the Centers for Disease Control and Prevention guidelines (<https://www.cdc.gov/vaccines/covid-19/clinical-considerations/managing-anaphylaxis.html>).

Thrombosis with Thrombocytopenia

Reports of adverse events following use of the Janssen COVID-19 Vaccine under emergency use authorization suggest an increased risk of thrombosis involving the cerebral venous sinuses and other sites (including but not limited to the large blood vessels of the abdomen and the veins of the lower extremities) combined with thrombocytopenia and with onset of symptoms approximately one to two weeks after vaccination. Most cases of thrombosis with thrombocytopenia reported following the Janssen COVID-19 Vaccine have occurred in females ages 18 through 49 years; some have been fatal. The clinical course of these events shares features with autoimmune heparin-induced thrombocytopenia. In individuals with suspected thrombosis with thrombocytopenia following the Janssen COVID-19 Vaccine, the use of heparin may be harmful and alternative treatments may be needed. Consultation with hematology specialists is strongly recommended. The American Society of Hematology has published considerations relevant to the diagnosis and treatment of thrombosis with thrombocytopenia following the Janssen COVID-19 Vaccine (<https://www.hematology.org/covid-19/vaccine-induced-immune-thrombotic-thrombocytopenia>). (*see Full EUA Prescribing Information*).

FACT SHEET FOR RECIPIENTS AND CAREGIVERS

EMERGENCY USE AUTHORIZATION (EUA) OF THE JANSSEN COVID-19 VACCINE TO PREVENT CORONAVIRUS DISEASE 2019 (COVID-19) IN INDIVIDUALS 18 YEARS OF AGE AND OLDER

<https://www.fda.gov/media/146305/download>

WHAT ARE THE RISKS OF THE JANSSEN COVID-19 VACCINE?

Side effects that have been reported with the Janssen COVID-19 Vaccine include:

- Injection site reactions: pain, redness of the skin and swelling.
- General side effects: headache, feeling very tired, muscle aches, nausea, and fever.

There is a remote chance that the Janssen COVID-19 Vaccine could cause a severe allergic reaction. A severe allergic reaction would usually occur within a few minutes to one hour after getting a dose of the Janssen COVID-19 Vaccine. For this reason, your vaccination provider may ask you to stay at the place where you received your vaccine for monitoring after vaccination. Signs of a severe allergic reaction can include:

- Difficulty breathing,
- Swelling of your face and throat,
- A fast heartbeat,
- A bad rash all over your body,
- Dizziness and weakness.

Blood clots involving blood vessels in the brain, abdomen, and legs along with low levels of platelets (blood cells that help your body stop bleeding), have occurred in some people who have received the Janssen COVID-19 Vaccine. In people who developed these blood clots and low levels of platelets, symptoms began approximately one to two-weeks following vaccination. Most people who developed these blood clots and low levels of platelets were females ages 18 through 49 years. The chance of having this occur is remote. You should seek medical attention right away if you have any of the following symptoms after receiving Janssen COVID-19 Vaccine:

- Shortness of breath,
- Chest pain,
- Leg swelling,
- Persistent abdominal pain,
- Severe or persistent headaches or blurred vision,
- Easy bruising or tiny blood spots under the skin beyond the site of the injection.

CDC's Interim Clinical Considerations Updated

Summary of recent changes (last updated April 27, 2021):

- The Advisory Committee on Immunization Practices' updated interim recommendation for the use of the Janssen (Johnson & Johnson) COVID-19 vaccine.
- Clarification that COVID-19 vaccination is recommended for all people 16 years and older added to key points and vaccine administration.
- Updated information about the Janssen COVID-19 vaccine added to background
- Requirements to be considered fully vaccinated added to vaccine administration and interchangeability of COVID-19 vaccine products.
- New section added for people vaccinated with COVID-19 vaccines not authorized in the United States.
- Clarification on COVID-19 vaccination and SARS-CoV-2 infection. People with prolonged post-COVID-19 symptoms should be offered COVID-19 vaccination.
- New section added on antiviral therapy and COVID-19 vaccination.
- Information on requesting a consultation from the [Clinical Immunization Safety Assessment COVIDvax](#) project added to considerations for vaccination of people with certain underlying medical conditions.
- New section added on considerations for use of the Janssen COVID-19 vaccine in certain populations
- Updated information and recommendations for vaccination of pregnant or lactating people.
- Updated recommendations for vaccination of children and adolescents.
- Updated information related to axillary lymphadenopathy added to patient counseling for mRNA COVID-19 vaccines.
- Updated information on the Janssen COVID-19 vaccine added to patient counseling.
- Updated recommendations related to contraindications (polysorbate allergy) and precautions (most people with a precaution can and should be administered vaccine) for COVID-19 vaccines.

CDC's Updated Interim Clinical Considerations and the Janssen COVID-19 Vaccine

- The updated FDA Fact Sheet should be provided to all vaccine recipients getting the Janssen COVID-19 vaccine
- Women under the age of 50 can get the Janssen vaccine, but should be aware of the rare risk of TTS after receipt of the Janssen vaccine
- Other FDA-authorized vaccines (mRNA vaccines) are available for people that choose decline the Janssen vaccine
- “Experts advise that persons with a history of an episode of an immune-mediate syndrome characterized by thrombosis and thrombocytopenia, such as HIT, should be offered another FDA-authorized COVID-19 vaccine (i.e., mRNA vaccine) if they are within at least 90-180 days after resolution of their illness

CDC's Updated Interim Clinical Considerations and the Janssen COVID-19 Vaccine

- People who take aspirin or anticoagulants as part of their routine medications do NOT need to stop these medications prior to receipt of the Janssen COVID-19 vaccine.
- It is NOT recommended that people take aspirin or an anticoagulant before vaccination with the Janssen COVID-19 vaccine (or any other COVID-19 vaccine).

Diagnosis and Management of TTS

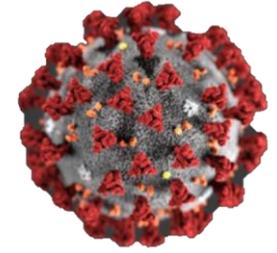
- Draw labs
- Perform imaging evaluating for thrombosis
- Consult a hematologist
- Avoid use of heparin until TTS has been ruled out
- See the American Society of Hematology Guidance:
<https://www.hematology.org/covid-19/vaccine-induced-immune-thrombotic-thrombocytopenia>

Key Takeaways
Thrombosis with Thrombocytopenia Syndrome (TTS)

- **Diagnosis** (must meet all four criteria):
 1. COVID vaccine (Johnson & Johnson/AstraZeneca *only* to date) 4 to 30 days previously
 2. Venous or arterial thrombosis (often cerebral or abdominal)
 3. Thrombocytopenia*
 4. Positive PF4 "HIT" (heparin-induced thrombocytopenia) ELISA
- **Incidence is extremely rare.** Risk of death and serious outcome of COVID-19, including thrombosis, far outweigh risk of TTS possibly associated with highly efficacious vaccines.
- **Urgent medical evaluation for TTS** is indicated if any of the following develop 4 to 30 days after vaccination:
 - Severe headache
 - Visual changes
 - Abdominal pain
 - Nausea and vomiting
 - Back pain
 - Shortness of breath
 - Leg pain or swelling
 - Petechiae, easy bruising, or bleeding
- **If TTS is suspected**, perform **immediate CBC with platelet count** and imaging for thrombosis based on symptoms.
- If thrombocytopenia or thrombosis are present, recommend urgent consultation from hematologist with expertise in hemostasis. ***Avoid use of heparin until TTS has been ruled out or until an alternative other plausible diagnosis has been made.***
- **Initial work-up (a normal platelet count is less concerning for TTS*):**
 - CBC ***with platelet count*** and peripheral smear
 - Imaging for thrombosis based on signs/symptoms
 - PF4-ELISA (HIT assay); ***draw blood prior to any therapies***
 - Fibrinogen and D-dimers
- **Initiate therapy** with intravenous immune immunoglobulin and nonheparin anticoagulation pending PF4 ELISA results if:
 - Signs/symptoms of serious thrombosis **AND** at least one of the following
 - Positive imaging **OR**
 - Low platelets* **OR**
 - Both

Summary

- TTS is a rare but serious syndrome
- Appears to be associated with receipt of both the Janssen and AstraZeneca COVID-19 vaccines (both adenovirus vector vaccines)
- Risk is very low:
 - Overall rate: 1.9 cases per million vaccinated
 - Rate in women aged 18-49 years: 7.0 cases per million vaccinated
- People receiving the Janssen COVID-19 vaccine need to be informed of the potential, but very low, risk, particularly women under the age of 50
- People can decline receipt of the Janssen vaccine and should be offered an alternative COVID-19 vaccine



New Hampshire Coronavirus Disease 2019 Weekly Call for Healthcare Providers and Public Health Partners

April 29, 2021

Ben Chan
Beth Daly

Thursday noon-time partner calls will focus on science, medical, and vaccine updates geared towards our healthcare partners